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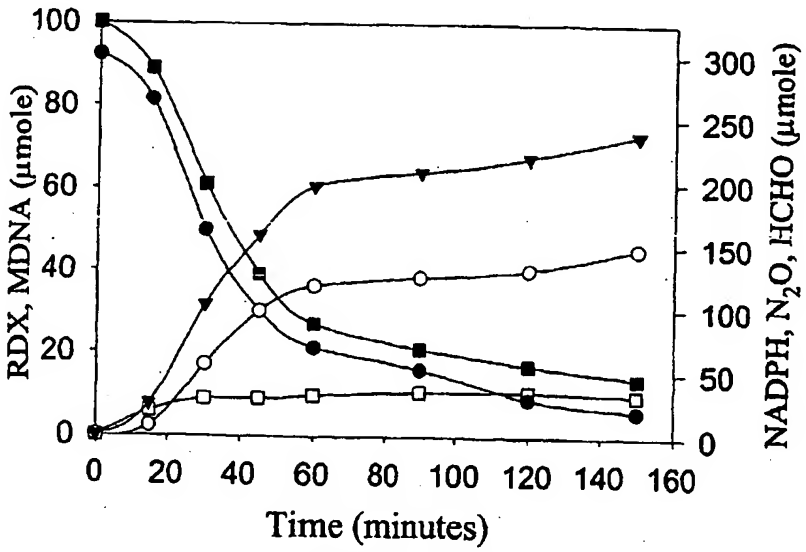
(54) Title: DEGRADATION OF CYCLIC NITRAMINES



(57) Abstract: The invention relates to a process for degradation of nitramines. The explosives RDX, HMX, CL20 and tetryl are exemplary nitramines that may be degraded according to the invention. These nitramines may be attacked chemically, biochemically or biologically. The invention may be used to degrade such explosive compounds that may be present in soil. Cyclic nitramines may be attacked at bonds so as to cause ring cleavage, which in the presence of water can lead to hydrolytic decomposition and mineralization. To prevent the decomposition reaction from undergoing sequential reduction to the corresponding nitroso derivative (nitrosation being reduction of $-NO_2$ to -NO), two routes may be taken: (a) attack on an $-N-NO_2$ bond (denitration) followed by hydration or (b) attack on a CH_2 bond (α-hydroxylation) to form unstable carbinol prior to cleavage and decomposition. The invention may be used to remediate soil and water contaminated with these explosives.

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